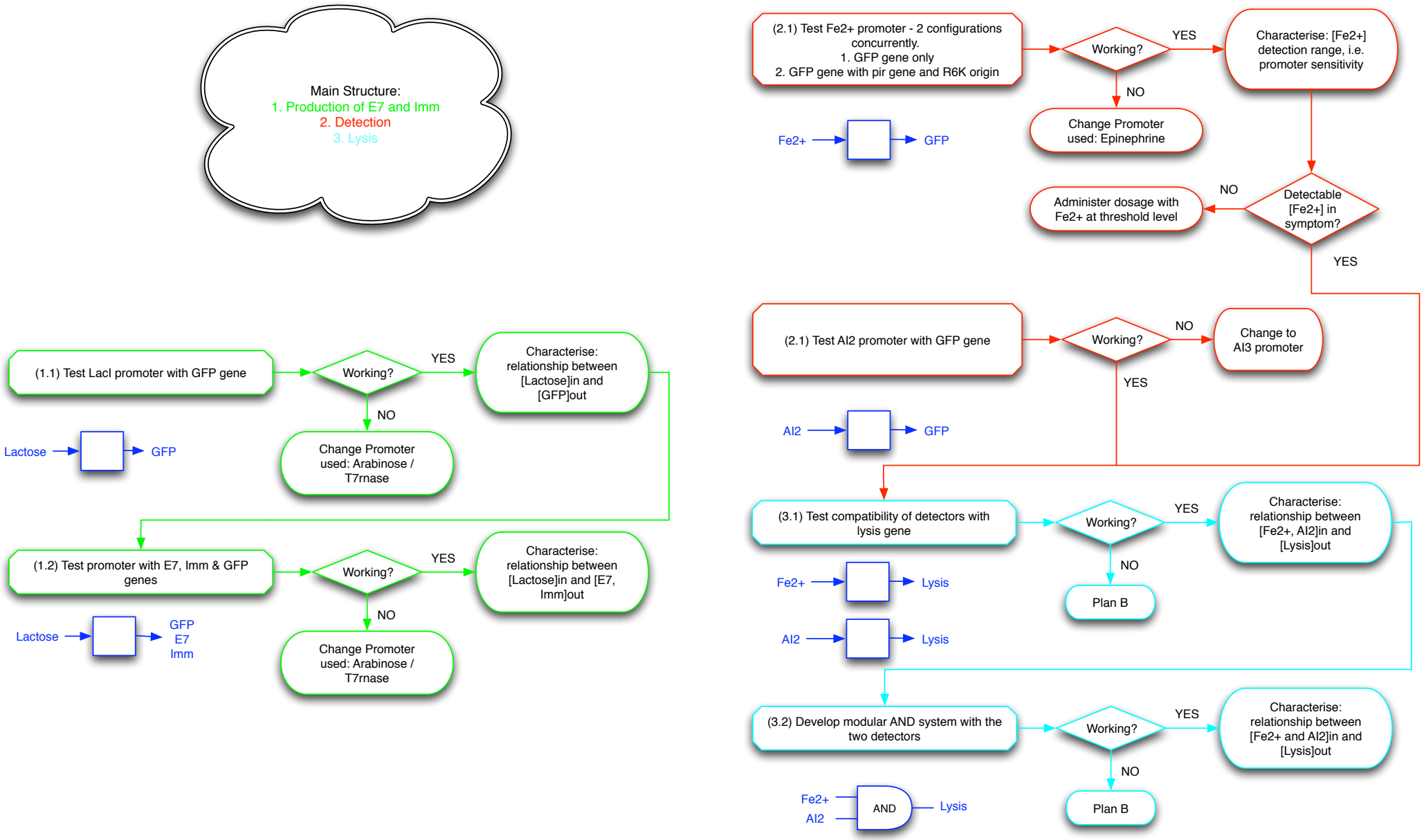
Main Structure:
1. Production of E7 and Imm
2. Detection
3. Lysis
(1.1) Test LacI promoter with GFP gene
Lactose
GFP
Working?
YES
NO
Characterise: relationship between [Lactose]in and [GFP]out
Change Promoter used: Arabinose / T7rnase
(1.2) Test promoter with E7, Imm & GFP genes
Lactose
GFP
E7
Imm
Working?
YES
NO
Characterise: relationship between [Lactose]in and [E7, Imm]out
Change Promoter used: Arabinose / T7rnase
(2.1) Test Fe2+ promoter - 2 configurations concurrently.
1. GFP gene only
2. GFP gene with pir gene and R6K origin
Fe2+
GFP
Working?
YES
NO
Characterise: [Fe2+] detection range, i.e. promoter sensitivity
Change Promoter used: Epinephrine
Detectable [Fe2+] in symptom?
NO
YES
Administer dosage with Fe2+ at threshold level
(2.1) Test AI2 promoter with GFP gene
AI2
GFP
Working?
NO
YES
Change to AI3 promoter
(3.1) Test compatibility of detectors with lysis gene
Fe2+
Lysis
AI2
Lysis
Working?
YES
NO
Characterise: relationship between [Fe2+, AI2]in and [Lysis]out
Plan B
(3.2) Develop modular AND system with the two detectors
Fe2+
AI2
AND
Lysis
Working?
YES
NO
Characterise: relationship between [Fe2+ and AI2]in and [Lysis]out
Plan B